CLAIMS

Having thus described the aforementioned invention, we claim:

1. An apparatus for forming and securing a loop handle in a tubular covering for an item to be packaged, said apparatus comprising:

a frame for supporting said apparatus and for engaging a support surface;

a chute carried by said frame, wherein said chute is adapted for receiving the tubular covering and maintaining an end of said tubular covering in an open position whereby the item to be packaged engages the tubular covering at a distal end of said chute;

a conveyor assembly for conveying the item to be packaged from a first selected position to said upper end of said chute;

a voider assembly carried by said frame proximate said chute, said voider assembly including a pair of voider gates defined by a stationary set of voider gates and a moveable set of voider gates, wherein each set of voider gates is defined by a top voider plate and a bottom voider plate, each voider plate having an opening that is adapted to be positioned so as to substantially register with said chute when said voider plates are in an open position, wherein said stationary voider gate is positioned proximate said distal end of the chute, and said moveable voider gate is selectively moveable between an extended position so as to be in spaced relation from said stationary voider gate and a retracted position so as to be positioned proximate said stationary voider gate, further wherein said stationary and said moveable voider gate are adapted to compress said tubular covering when said voider plates are in a closed position thereby forming an elongated compressed cord;

a product restrainer assembly carried by said moveable voider gate, for receiving the item to be packaged as the item to be packaged exits said chute and passes through said voider assembly;

a handle formation assembly carried by said frame for engaging a portion of said compressed cord of tubular covering disposed between said stationary voider gate and said moveable voider gate and forming said compressed cord into a loop handle; and

a clipper member carried by said frame in spaced relation from said handle formation assembly, for engaging said loop handle defined in said compressed cord of tubular covering and for securing at least a first clip and a second clip to said compressed cord for securing an open end of said tubular covering for the item to be packaged, and for securing said loop handle, wherein said clipper member is further adapted for severing said compressed cord of tubular covering at a point disposed between said first and second clips.

2. The apparatus of Claim 1 wherein said item to be packaged is a food product.

3. The apparatus of Claim 2 wherein said item to be packaged is a poultry product.

4. The apparatus of claim 1 wherein said apparatus further comprises a conveyor belt for conveying the product to be packaged towards said chute.

5. The apparatus of claim 4 wherein said conveyor belt is motor driven.

6. The apparatus of Claim 4 wherein said apparatus intersects a production line and said conveyor belt conveys the product to be packaged from the production line to said chute.

7. The apparatus of Claim 1 wherein said chute is inclined so as to have an upper end proximate said conveyor assembly and further wherein said distal end defines a lower end, whereby the item to be packaged will travel through said chute under the force of gravity.

8. The apparatus of Claim 7 wherein said chute includes ridges disposed along the length of said chute for substantially preventing rotation of the item to be packaged.

9. The apparatus of Claim 1 wherein said product restrainer assembly includes a slide plate, guide plates disposed on said slide plate in spaced relation from one another and restrainer arms, said restrainer arms having a bend disposed along their length, and having rollers disposed at an end thereof that are adapted to follow said guide plates, wherein said guide plates are adapted so as to narrow an effective distance between said bends disposed in restrainer arms when said restrainer arms are positioned at an uppermost position with respect to said slide plate and to allow the effective distance between the restrainer arms to increase at its lowermost position, thereby allowing said restrainer arms to catch the item to be packaged as said item to be packaged exits said chute and allowing discharge of item to be packaged.

10. The apparatus of Claim 9 wherein said product restrainer apparatus further includes rails substantially parallel to said guide plates for caging said rollers and for substantially preventing said restrainer arms from rebounding inward during operation of said apparatus.

11. The apparatus of Claim 1 wherein said openings in the top and bottom voider plates include bites that cooperate, and register, when said voider plates are in a closed position, to form a narrow channel whereby said tubular covering is compressed into said compressed cord.

12. The apparatus of Claim 1 wherein said handle forming assembly includes a handle formation jaw, actuated by a jaw actuator, a jaw plate and a handle jaw cover actuated by a cover actuator, each of said handle formation jaw and said jaw plate having an elongated slot opening outwardly there from, said handle formation jaw and said jaw plate being carried by an elongated rod actuated by a dual stage cylinder, said handle forming assembly further including a rotary actuator for rotating said handle forjmation jaw through a range of approximately one hundred and eighty degrees.

13. The apparatus of Claim 1 wherein said clipping device is configured with first and second clip rail assemblies disposed on a first side of said clipping device, wherein said first side of said clipping device is proximate said stationary voider.